



Dart Aerospace Ltd.
1270 Aberdeen St
Hawkesbury, ON
K6A 1K7
Canada

Tel (613) 632-5200
Fax 613 632-5246

D2649

Job Sheet 195276



Part No: D2649

Job Qty: 75 pcs

Part Name: Cross Bolt Spacer



Part Weight: 0 lbs

Status: New

Priority: Medium

Job Created: 5/16/19

Job Tracking No:

Due Date: 9/6/19

Created By: Kimberley Guerin

Type: Stock

Description:

Note: DWG REV B1 IPP F 02.03.26 Added turning on Cobra NG IPP Rev:G 10.05.11 added cleaning DD verified :EC

Ship Via:

Bill of Materials

Job Routing

Op No	Operation	Qty	Start Date	Due Date	Standard		Workcenter/Supplier		Sign-off
					Setup Hrs	Run Hrs	Workcenter / Supplier	Lead Time	
130	Purchasing	75 pcs		9/6/19	0.00	0.00	Purchasing - 1		
							Purchasing - 2		
							Purchasing - 3		
									SEP 17 2019
140	Packaging 2-1 - Receive - B4B	75 pcs		9/6/19	0.00	0.00	Packaging 2 - 1 - B4B		
							Packaging 2 - 2 - B4B		
							Packaging 2 - 3 - B4B		
							Packaging 2 - 5 - B4B		
							Packaging 2 - 4 - B4B		
							Packaging 2 - 6 - B4B		
							Packaging 2 - 7 - B4B		
							Packaging 2 - 8 - B4B		
							Packaging 2 - 9 - B4B		
							Packaging 2 - 10 - B4B		
							Packaging 2 - 11 - B4B		
							Packaging 2 - 12 - B4B		
							Packaging 2 - 13 - B4B		
							Packaging 2 - 14 - B4B		
							Packaging 2 - 15 - B4B		
							Packaging 2 - 16 - B4B		
							Packaging 2 - 17 - B4B		
							Packaging 2 - 18 - B4B		
							Packaging 2 - 19 - B4B		
							Packaging 2 - 20 - B4B		
							Packaging 2 - 21 - B4B		
							Packaging 2 - 22 - B4B		
							Packaging 2 - 23 - B4B		
							Packaging 2 - 24 - B4B		
							Packaging 2 - 25 - B4B		
							Packaging 2 - 26 - B4B		
							Packaging 2 - 27 - B4B		



Dart Aerospace Ltd.
1270 Aberdeen Street
Hawkesbury, ON K6A 1K7
CANADA
TEL: 1 613 632-5200
Email: sales@dartaero.com
www.dartaerospace.com

Container No: S214176



Part: D2649

Job No: 195276

Serial No/Batch: S214176

Revision:

Inspector:

Exp Date:

Instructions: Various STC's

Date: 09/17/19

Plex 5/16/19 3:19 PM Dart.Guerin.Kimberley

16/2019

[Dart Hawkesbury] Job Sheet - Guerin, Kimberley

					Packaging 2 - 28 - B4B	
					Packaging 2 - 29 - B4B	
					Packaging 2 - 30 - B4B	
					Packaging 2 - 31 - B4B	
					Packaging 2 - 32 - B4B	
					Packaging 2 - 33 - B4B	
					Packaging 2 - 34 - B4B	
					Packaging 2 - 35 - B4B	
					Packaging 2 - 36 - B4B	
					150 QC 6	75 pcs
QC 6 - 68						
QC 6 - 61						
QC 6 - 40						
160 Packaging 3-1 - Stock - B4B	75 pcs	9/6/19	0.00 0.00		Packaging 3 - 1 - B4B	Dn
					Packaging 3 - 2 - B4B	
					Packaging 3 - 3 - B4B	
					Packaging 3 - 4 - B4B	
					Packaging 3 - 5 - B4B	
					Packaging 3 - 6 - B4B	
					Packaging 3 - 7 - B4B	
					Packaging 3 - 8 - B4B	
					Packaging 3 - 9 - B4B	
					Packaging 3 - 10 - B4B	
					Packaging 3 - 11 - B4B	
					Packaging 3 - 12 - B4B	
					Packaging 3 - 13 - B4B	
					Packaging 3 - 14 - B4B	
					Packaging 3 - 15 - B4B	
					Packaging 3 - 16 - B4B	
					Packaging 3 - 17 - B4B	
					Packaging 3 - 18 - B4B	
					Packaging 3 - 19 - B4B	
					Packaging 3 - 20 - B4B	
					Packaging 3 - 21 - B4B	
					Packaging 3 - 22 - B4B	
					Packaging 3 - 23 - B4B	
					Packaging 3 - 24 - B4B	
					Packaging 3 - 25 - B4B	
					Packaging 3 - 26 - B4B	
					Packaging 3 - 27 - B4B	
					Packaging 3 - 28 - B4B	
					Packaging 3 - 29 - B4B	
					Packaging 3 - 30 - B4B	
					Packaging 3 - 31 - B4B	
					Packaging 3 - 32 - B4B	
					Packaging 3 - 33 - B4B	
					Packaging 3 - 34 - B4B	
					Packaging 3 - 35 - B4B	
					Packaging 3 - 36 - B4B	
170 QC 21 - SA	75 pcs	9/6/19	0.00 0.00		QC 21 - SA - 21	DAS 21 9-89 SEP 17 2019
					QC 21 - SA - 70	
					QC 21 - SA - 53	
Part Op 130 - ISSUE P/O: _____					SUPPLIER: E.T.M. INDUSTRIES INC. MANUFACTURE AS PER DWG	
Descriptions: C OF C IS REQUIRED						
160 - Identify as per dwg & Stock Location: _____					***STOCK IN SKIDTUBE CELL*** LOCATION :LG001	
170 - QC21- Final Inspection - Work Order Release						

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Job BOM				
Part / Item	Component Name	Quantity	Operation	Container
D2649P	Crossbolt Spacer	75 Ea (1 ea)	130-Purchasing	5214170

Job Allocations				
Operation	Component Part	Required	Inventory	Allocated
130-Purchasing	D2649P	75	0	0

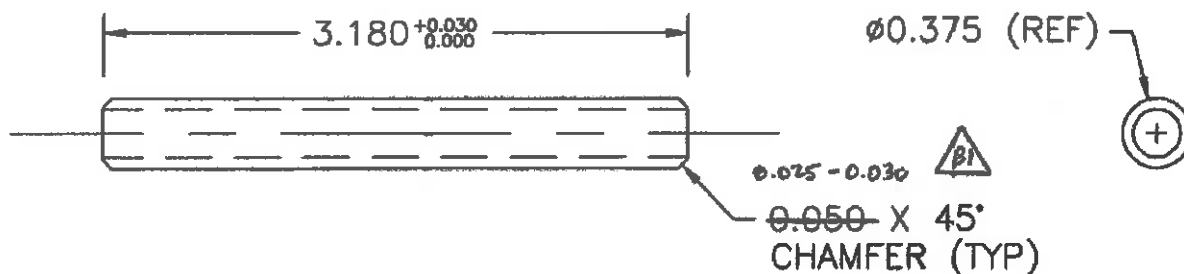
Part Specifications					
Spec No	Description	Target/Tolerance	Limits	Type	Special Comments
1	Crossbolt Spacer	3.180Inches	+ 0.030 - 0.000	3.210 3.180	
2	Crossbolt Spacer	0.375Inches	± 0.010	0.385 0.365	
3	Crossbolt Spacer	0.025Inches	+ 0.005 - 0.000	0.030 0.025	

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DESIGN <i>DM</i>	DRAWN BY <i>KE</i>	DART AEROSPACE USA, INC. FAIRCHILD INTERNATIONAL AIRPORT, WA	
CHECKED <i>DM</i>	APPROVED <i>BW</i>	DRAWING NO. D2649	REV. B SHEET 1 OF 1
DATE 98.01.14		TITLE CROSS BOLT SPACER	SCALE 1:1
A	97.03.25	NEW ISSUE	
B	98.01.14	3.180 WAS 3.230, ADD CHAMFER	
B1	CP 02.06.13	REDUCE CHAMFER PER TSR 1246.	

RELEASED
98.01.20 DS



MATERIAL: 6061-T6 (WW-T-700/6) OR 5052-H32 (WW-T-700/4)
0.375 DIA 0.058 WALL
TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED



Dart Aerospace Ltd.
1270 Aberdeen St
Hawkesbury, ON
K6A 1K7
Canada

Tel (613) 632-5200

PURCHASE ORDER

POHB043487



Supplier: ETM001-VC
E.T.M. Industries Inc.
310 Hall Avenue, Box 610
Renfrew
ON
K7V 4E7 Canada
Phone: 613-432-6136
Fax: 613-432-8212

PO No: POHB043487
PO Date: 5/17/19
Due Date: 5/15/20
Purchase Order
Revision:
Revision Date:
Ship-To Contact: Phone:

Via: Ground
Pynt Terms: Net 30
Freight Terms:
Special Comments:

Ship To: 1270 Aberdeen Street
Hawkesbury
ON
K6A 1K7 Canada
Phone: 613-632-5200

Items

Line Item	Job	Part	Supplier Part No	Item No	Description	Status	Account	Due Date	Order Quantity	Received Quantity	Balance	Unit Price (CAD)	Extended Price
1	195270	D2579P			Crossbolt Spacer : as per Dwg D2579 RevE	Firmed	-	9/6/19 SEP 12 2019	50 Ea	0 Ea	50 Ea	\$2.90/Ea	\$145.00
2	195283	D2579P			Crossbolt Spacer : as per Dwg D2579 RevE	Firmed	-	11/15/19	50 Ea	0 Ea	50 Ea	\$2.90/Ea	\$145.00
3	195294	D2579P			Crossbolt Spacer : as per Dwg D2579 RevE	Firmed	-	2/14/20	50 Ea	0 Ea	50 Ea	\$2.90/Ea	\$145.00
4	195305	D2579P			Crossbolt Spacer : as per Dwg D2579 RevE	Firmed	-	5/15/20	50 Ea	0 Ea	50 Ea	\$2.90/Ea	\$145.00
5	195271	D3681-1P			Spacer : as per Dwg D3681-1 RevA	Firmed	-	9/6/19 AUG 30 2019	250 Ea	0 Ea	250 Ea	\$3.75/Ea	\$937.50
6	195284	D3681-1P			Spacer : as per Dwg D3681-1 RevA	Firmed	-	11/15/19	250 Ea	0 Ea	250 Ea	\$3.75/Ea	\$937.50
7	195295	D3681-1P			Spacer : as per Dwg D3681-1 RevA	Firmed	-	2/14/20	250 Ea	0 Ea	250 Ea	\$3.75/Ea	\$937.50

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Items													
Line Item	Job	Part	Supplier Part No	Item No	Description	Status	Account	Due Date	Order Quantity	Received Quantity	Balance	Unit Price (CAD)	Extended Price
8	195306	D3681-1P			Spacer : as per Dwg D3681-1 RevA	Firmed	-	5/15/20	250 Ea	0 Ea	250 Ea	\$3.75/Ea	\$937.50
9	195272	D3903-1P			Spacer : as per Dwg D3903-1 RevB	Firmed	-	9/6/19	200 Ea	0 Ea	200 Ea	\$3.75/Ea	\$750.00
10	195285	D3903-1P			Spacer : as per Dwg D3903-1 RevB	Firmed	-	11/15/19	200 Ea	0 Ea	200 Ea	\$3.75/Ea	\$750.00
11	195296	D3903-1P			Spacer : as per Dwg D3903-1 RevB	Firmed	-	2/14/20	200 Ea	0 Ea	200 Ea	\$3.75/Ea	\$750.00
12	195307	D3903-1P			Spacer : as per Dwg D3903-1 RevB	Firmed	-	5/15/20	200 Ea	0 Ea	200 Ea	\$3.75/Ea	\$750.00
13	195273	D3490-1P			Crossbolt Spacer : as per Dwg D3490-1 RevA	Firmed	-	9/6/19	100 Ea	0 Ea	100 Ea	\$3.90/Ea	\$390.00
14	195286	D3490-1P			Crossbolt Spacer : as per Dwg D3490-1 RevA	Firmed	-	11/15/19	100 Ea	0 Ea	100 Ea	\$3.90/Ea	\$390.00
15	195297	D3490-1P			Crossbolt Spacer : as per Dwg D3490-1 RevA	Firmed	-	2/14/20	100 Ea	0 Ea	100 Ea	\$3.90/Ea	\$390.00
16	195308	D3490-1P			Crossbolt Spacer : as per Dwg D3490-1 RevA	Firmed	-	5/15/20	100 Ea	0 Ea	100 Ea	\$3.90/Ea	\$390.00
17	195275	D2743P			Crossbolt Spacer : as per Dwg D2743 RevB	Firmed	-	9/6/19	250 Ea	0 Ea	250 Ea	\$2.95/Ea	\$737.50

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PURCHASE ORDER

POHB043487



Items													
Line Item	Job	Part	Supplier Part No	Item No	Description	Status	Account	Due Date	Order Quantity	Received Quantity	Balance	Unit Price (CAD)	Extended Price
18	195287	D2743P			Crossbolt Spacer : as per Dwg D2743 RevB	Firmed	-	11/15/19	250 Ea	0 Ea	250 Ea	\$2.95/Ea	\$737.50
19	195298	D2743P			Crossbolt Spacer : as per Dwg D2743 RevB	Firmed	-	2/14/20	250 Ea	0 Ea	250 Ea	\$2.95/Ea	\$737.50
20	195309	D2743P			Crossbolt Spacer : as per Dwg D2743 RevB	Firmed	-	5/15/20	250 Ea	0 Ea	250 Ea	\$2.95/Ea	\$737.50
21	195276	D2649P			Crossbolt Spacer : as per Dwg D2649 RevB1	Firmed	-	9/6/19	75 Ea	0 Ea	75 Ea	\$2.25/Ea	\$168.75
						X75		SEP 17 2019				1.39 \$ vs	DP
22	195288	D2649P			Crossbolt Spacer : as per Dwg D2649 RevB1	Firmed	-	11/15/19	75 Ea	0 Ea	75 Ea	\$2.25/Ea	\$168.75
23	195299	D2649P			Crossbolt Spacer : as per Dwg D2649 RevB1	Firmed	-	2/14/20	75 Ea	0 Ea	75 Ea	\$2.25/Ea	\$168.75
24	195310	D2649P			Crossbolt Spacer : as per Dwg D2649 RevB1	Firmed	-	5/15/20	75 Ea	0 Ea	75 Ea	\$2.25/Ea	\$168.75
25	195277	D3275-1P			Crossbolt Spacer : as per Dwg D3275-1 RevA1	Firmed	-	9/6/19	62 Ea	0 Ea	62 Ea	\$2.25/Ea	\$139.50
						X62		SEP 12 2019				1.03 \$ vs	DP
26	195289	D3275-1P			Crossbolt Spacer : as per Dwg D3275-1 RevA1	Firmed	-	11/15/19	62 Ea	0 Ea	62 Ea	\$2.25/Ea	\$139.50

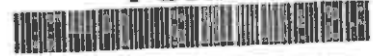
Plex 5/17/19 11:41 AM Dart.Guerin.Kimberley



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PURCHASE ORDER POHB043487



Items													
Line Item	Job	Part	Supplier Part No	Item No	Description	Status	Account	Due Date	Order Quantity	Received Quantity	Balance	Unit Price (CAD)	Extended Price
27	195300	D3275-1P			Crossbolt Spacer : as per Dwg D3275-1 RevA1	Firmed	-	2/14/20	62 Ea	0 Ea	62 Ea	\$2.25/Ea	\$139.50
28	195311	D3275-1P			Crossbolt Spacer : as per Dwg D3275-1 RevA1	Firmed	-	5/15/20	62 Ea	0 Ea	62 Ea	\$2.25/Ea	\$139.50
29	195278	D5518-1P			Crossbolt Spacer : as per Dwg D5518-1 RevA	Firmed	-	9/6/19	50 Ea	0 Ea	50 Ea	\$2.20/Ea 6.75 \$ VS	\$110.00
30	195290	D5518-1P			Crossbolt Spacer : as per Dwg D5518-1 RevA	Firmed	-	11/15/19	50 Ea	0 Ea	50 Ea	\$2.20/Ea	\$110.00
31	195301	D5518-1P			Crossbolt Spacer : as per Dwg D5518-1 RevA	Firmed	-	2/14/20	50 Ea	0 Ea	50 Ea	\$2.20/Ea	\$110.00
32	195312	D5518-1P			Crossbolt Spacer : as per Dwg D5518-1 RevA	Firmed	-	5/15/20	50 Ea	0 Ea	50 Ea	\$2.20/Ea	\$110.00
33	195279	D4202-1P			Spacer : as per Dwg D4202-1 RevD	Firmed	-	9/6/19	750 Ea	0 Ea	750 Ea	\$3.10/Ea 4.34 \$ VS	\$2,325.00
34	195291	D4202-1P			Spacer : as per Dwg D4202-1 RevD	Firmed	-	11/15/19	750 Ea	0 Ea	750 Ea	\$3.10/Ea	\$2,325.00
35	195302	D4202-1P			Spacer : as per Dwg D4202-1 RevD	Firmed	-	2/14/20	750 Ea	0 Ea	750 Ea	\$3.10/Ea	\$2,325.00

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PURCHASE ORDER POHB043487



Items													
Line Item	Job	Part	Supplier Part No	Item No	Description	Status	Account	Due Date	Order Quantity	Received Quantity	Balance	Unit Price (CAD)	Extended Price
36	195313	D4202-1P			Spacer : as per Dwg D4202-1 RevD	Firmed	-	5/15/20	750 Ea	0 Ea	750 Ea	\$3.10/Ea	\$2,325.00
37	195280	D4720-1P			Spacer : as per Dwg D4720-1 RevB	Firmed	-	9/6/19	250 Ea	0 Ea	250 Ea	\$3.00/Ea 2.40/Ea	\$750.00
38	195292	D4720-1P			Spacer : as per Dwg D4720-1 RevB	Firmed	-	11/15/19	250 Ea	0 Ea	250 Ea	\$3.00/Ea	\$750.00
39	195303	D4720-1P			Spacer : as per Dwg D4720-1 RevB	Firmed	-	2/14/20	250 Ea	0 Ea	250 Ea	\$3.00/Ea	\$750.00
40	195314	D4720-1P			Spacer : as per Dwg D4720-1 RevB	Firmed	-	5/15/20	250 Ea	0 Ea	250 Ea	\$3.00/Ea	\$750.00
41	195281	D4686-1P			Spacer : as per Dwg D4686-1 RevB	Firmed	-	9/6/19	75 Ea	0 Ea	75 Ea	\$3.75/Ea 7.65/Ea	\$281.25
42	195293	D4686-1P			Spacer : as per Dwg D4686-1 RevB	Firmed	-	11/15/19	75 Ea	0 Ea	75 Ea	\$3.75/Ea	\$281.25
43	195304	D4686-1P			Spacer : as per Dwg D4686-1 RevB	Firmed	-	2/14/20	75 Ea	0 Ea	75 Ea	\$3.75/Ea	\$281.25
44	195315	D4686-1P			Spacer : as per Dwg D4686-1 RevB	Firmed	-	5/15/20	75 Ea	0 Ea	75 Ea	\$3.75/Ea	\$281.25
Grand Total:													\$26,938.00

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PURCHASE ORDER

POHB043487



Order Notes

Procurement Quality Clauses

A005 RIGHT OF ENTRY

A008 FIRST ARTICLE INSPECTION (FAI) BY SELLER, (DOCUMENTATION SENT TO DART AEROSPACE)

A012 CHEMICAL AND PHYSICAL TEST REPORTS

A016 PERSONNEL QUALIFICATION

A017 RAW MATERIAL IDENTIFICATION (AS APPLICABLE)

A026 CERTIFICATION OF MATERIAL CONFORMANCE

A041 QUALITY MANAGEMENT SYSTEM

A042 DART NOTIFICATION BY SUPPLIER

A043 RETENTION OF QUALITY DOCUMENT

A048 COUNTERFEIT PARTS AVOIDANCE, DETECTION, MITIGATION AND DISPOSITION PROGRAM

A049 SUPPLIER AWARENESS

Terms & Condition of Purchasing(Suppliers) and Procurement Quality Clauses are an integral part of our AS9100 requirements. To learn in detail, please visit www.dartaerospace.com for further explanation.

Plex 5/17/19 11:41 AM Dart.Guerin.Kimberley

E.T.M. INDUSTRIES INC.
310 HALL AVENUE
BOX 610
RENFREW, ON K7V 4E7
Canada

Ph: 613-432-6136

Fax: 613-432-8212

Pack List

Number: 144099

Date: 11-Sep-19

To

DART AEROSPACE
1270 ABERDEEN STREET
HAWKESBURY, ON K6A 1K7
Canada

Ship To

Patrick Lussier
DART AEROSPACE
1270 ABERDEEN STREET
HAWKESBURY, ON K6A 1K7
Canada

Ph: 613-632-5200

Fax: 613-632-5246

Ph: 613-632-5200

Fax: 613-632-5246

Terms		Ship Via	
Net 30 days			
Quantity	Description		
75 each	Part: D2649P CROSSBOLT SPACER SO: 25664 **lot #107188	Rev: B1	PO: POHB043487 Line: 21
CERTIFICATE OF COMPLIANCE "I hereby certify that the material described above is in conformance with applicable physical and dimensional specifications; that it was manufactured in accordance with applicable process specifications; and has been inspected to verify conformance to those specifications." APPROVED SIGNATORY (QUALITY ASSURANCE)			

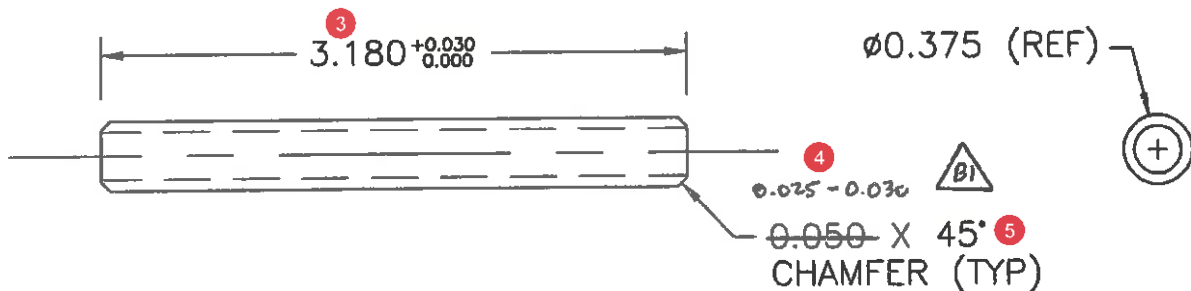
RECEIVED
SEP 16 2019
DART AEROSPACE LTD.



DESIGN <i>DAJ</i>	DRAWN BY <i>KE</i>	DART AEROSPACE USA, INC. FAIRCHILD INTERNATIONAL AIRPORT, WA	
CHECKED <i>DAJ</i>	APPROVED <i>BW</i>	DRAWING NO. D2649	REV. B SHEET 1 OF 1
DATE 98.01.14		TITLE CROSS BOLT SPACER	SCALE 1:1
A	97.03.25	NEW ISSUE	
B	98.01.14	3.180 WAS 3.230, ADD CHAMFER	
BI	CP 02.06.13	REDUCE CHAMFER PER TSR 1296.	

RELEASED
98.01.20 DS

CONTROLLED COPY



- 1 MATERIAL: 6061-T6 (WW-T-700/6) OR 5052-H32 (WW-T-700/4)
0.375 DIA 0.058 WALL
- 2 TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED

AS9102 Revision B First Article Inspection
Form 1: Part Number Accountability

1. Part Number D2649P	2. Part Name CROSSBOLT SPACER	3. Serial Number N/A	4. FAI Number N/A
5. Part Revision Level REV. B1	6. Drawing Number D2649	7. Drawing Revision Level REV.B	8. Additional Changes N/A
9. Manufacturing Process Reference 107188	10. Organization Name ETM Industries Inc.	11. Supplier Code N/A	12. P.O. Number POHB043487, LN21
13. Detail FAI ☒	14. Full FAI ☒ <i>Baseline Part Number including Revision Level</i>		
Assembly FAI ☐	Partial FAI ☐		
	Reason for Partial FAI: Not Applicable		N/A
a) If above part number is a detail part only, go to Field 19 b) If above part number is an assembly, go to the "Index" section below.			
INDEX of part numbers or sub assembly numbers required to make the assembly noted above.			
15. Part Number	16. Part Name	17. Part Serial Number	18. FAI Report Number
N/A	N/A	N/A	N/A

1) Signature indicates that all characteristics are accounted for; meet drawing requirements or are properly documented for disposition.	
2) Also indicate if the FAI is complete per Section 5.4: ☒ FAI Complete ☐ FAI Not Complete	
19. Signature Mike Morin	20. Date 9/04/19
21. Reviewed by	22. Date
23. Customer Approval	24. Date

AS9102 Revision B First Article Inspection

Form 2: Product Accountability – Raw Material, Specifications and Special Process(es),
Functional Testing

1. Part Number D2649P	2. Part Name CROSSBOLT SPACER	3. Serial Number N/A			4. FAI Report Number N/A
5. Material or Process – Name	6. Specification Number	7. Code	8. Special Process Supplier Code	9. Customer Approval Verification (Yes/No/N/A)	10. Certificate of Conformance Number
MAKE FROM; ALUMINUM TUBING	6061-T6 (WW-T-700/6) OR 5052-H32 (WW-T-700/4) 0.375 DIA 0.058 WALL	N/A	N/A	N/A	KAISER ALUMINUM FABRICATED PRODUCTS: LOT #F00298040
11. Functional Test Procedure Number	12. Acceptance report number, if applicable				
Not Applicable	Not Applicable				
13. Comments					
14. Prepared By Mike Morin			15. Date 9/04/19		

AS9102 Revision B First Article Inspection
Form 3: Characteristic Accountability, Verification and Compatibility Evaluation

1. Part Number D2649P		2. Part Name CROSSBOLT SPACER		3. Serial Number N/A		4. FAI Report N/A	
Characteristic Accountability				Inspection / Test Results			
5. Char. No.	6. Reference Location	7. Characteristic Designator	8. Requirement	9. Results	10. Designated Tooling	11. Non Conformance Number	14. Reference Documents
1	SHEET 1 of 1	N/A	6061-T6 (WW-T-700/6) OR 5052-H32 (WW-T-700/4) 0.375 DIA 0.058 WALL	ACCEPT	KAISER ALUMINUM FABRICATED PRODUCTS: LOT #F00298040	N/A	C of C # F00298040
2	SHEET 1 of 1	N/A	TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED	ACCEPT	VERIFY	N/A	N/A
3	SHEET 1 of 1	N/A	3.180 +0.030/0.000	3.198	Vernier	N/A	N/A
4	SHEET 1 of 1	N/A	0.025 – 0.030	0.0282	Optical Comparator	N/A	N/A
5	SHEET 1 of 1	N/A	45 ± 1/2 CHAMFER (TYP)	44.83	Optical Comparator	N/A	N/A

The signature indicates that all characteristics are accounted for; meet drawing requirements or are properly documented for disposition.

12. Prepared By

Mike Morin

13. Date

9/04/19

KAISER ALUMINUM FABRICATED PRODUCTS

KAISER ALUMINUM
FABRICATED PRODUCTS, LLC
8573 W. WILLIS ROAD
CHANDLER, AZ 85226

CERTIFIED TEST REPORT
<http://Online.KaiserAluminum.com>

CUSTOMER PO NUMBER: M49399774-1		CUSTOMER PART NUMBER: 11952		PRODUCT DESCRIPTION: Drawn Seamless Tube/Pipe	
KAISER ORDER NUMBER: 228138	LINE ITEM: 001	SHIP DATE: 04/30/2019	KAISER LOT NUMBER: F00298040	ALLOY: 6061	TEMPER: T6
WEIGHT SHIPPED: 779.000 LB	QUANTITY: 959.000 PCS	B/L NUMBER: 233384	DEW/DAF/THKNS:	WIDTH:	LENGTH: 12.000 FT
SHIP TO: TW METALS INC 235 WEST TUBEWAY DRIVE CAROL STREAM, IL 60188 USA			SOLD TO: TW METALS INC 730 CONSTITUTION DRIVE SUITE 204 EXTON, PA 19341 USA		

Actual Physical Properties

REFERENCE	DASH#	SAMPLE#	UTS (KSI)	UTS (KSI)	ELONG%	HARDNESS	CON%IACS	BEND
F00298040	0001	0101	45.3	38.5	17.0	N/A	N/A	N/A
F00298040	0002	0101	45.3	38.5	17.5	N/A	N/A	N/A

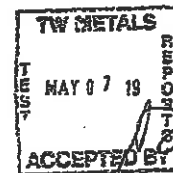
DAS
81
9-99

Chemical Composition (wt%), Aluminum Remainder

LIMITS	Si	Fe	Cu	Mn	Mg	Cr	Zn	Ti	Pb	Bi	Zr	Ba	Tot
Maximum	0.80	0.70	0.40	0.15	1.20	0.35	0.25	0.15	NA	NA	NA	0.05	0.15
Minimum	0.40	0.00	0.15	0.00	0.80	0.05	0.00	0.00	NA	NA	NA	0.00	0.00
D3023A	.59	.29	.22	.05	.39	.10	.06	.03	.00	.00	.00	.01	.02

Applicable Requirements:

Description: OD: 0.3750"; Wall: 0.0580"; Round @
AMS4082P AMS-WW-T-700/6C ASTM B210-12
WE TAKE EXCEPTION TO PARA. 5.2 1., Per AMS 4082P, WAS NOT OILED.
This Product Complies to FAR BAA, DFARS BAA, FAR TAA
COMPLIES TO DIN EN 10204 JAN 2005
No Weld Repair. Mercury Free.



Miscellaneous Notes

MANUFACTURED IN USA MELTED IN USA
MATERIAL COMPLIES WITH FAR BAA (FAR 52.225-1, BUY AMERICAN ACT- SUPPLIES), DFARS BAA
(DFARS 252.225-7001 BUY AMERICAN ACT & BAL OF PAYMENTS PROG), AND FAR TAA (FAR 52.225-5
TRADE AGREEMENTS).

Plant Serial: 00031526
Kaiser Order Number: 228138
Line Item: 001

KAISER

ALUMINUM

FABRICATED PRODUCTS

KAISER ALUMINUM
FABRICATED PRODUCTS, LLC
6573 W. WILLIS ROAD
CHANDLER, AZ 85226

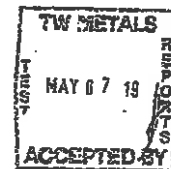
CERTIFIED TEST REPORT

<http://Online.KaiserAluminum.com>

CERTIFICATION

Kaiser Aluminum Fabricated Products, LLC ("Kaiser") hereby certifies that metal shipped under this order has been inspected and tested and found in conformance with the applicable specifications forming a part of the description set forth on Kaiser's sales acknowledgment form. Any warranty is limited to that shown on Kaiser's general terms & conditions of sale. Test reports are on file subject to examination.

Nathaniel Stevens, Quality Manager



Plant Serial: 00031526
Kaiser Order Number: 228138
Line Item: 001